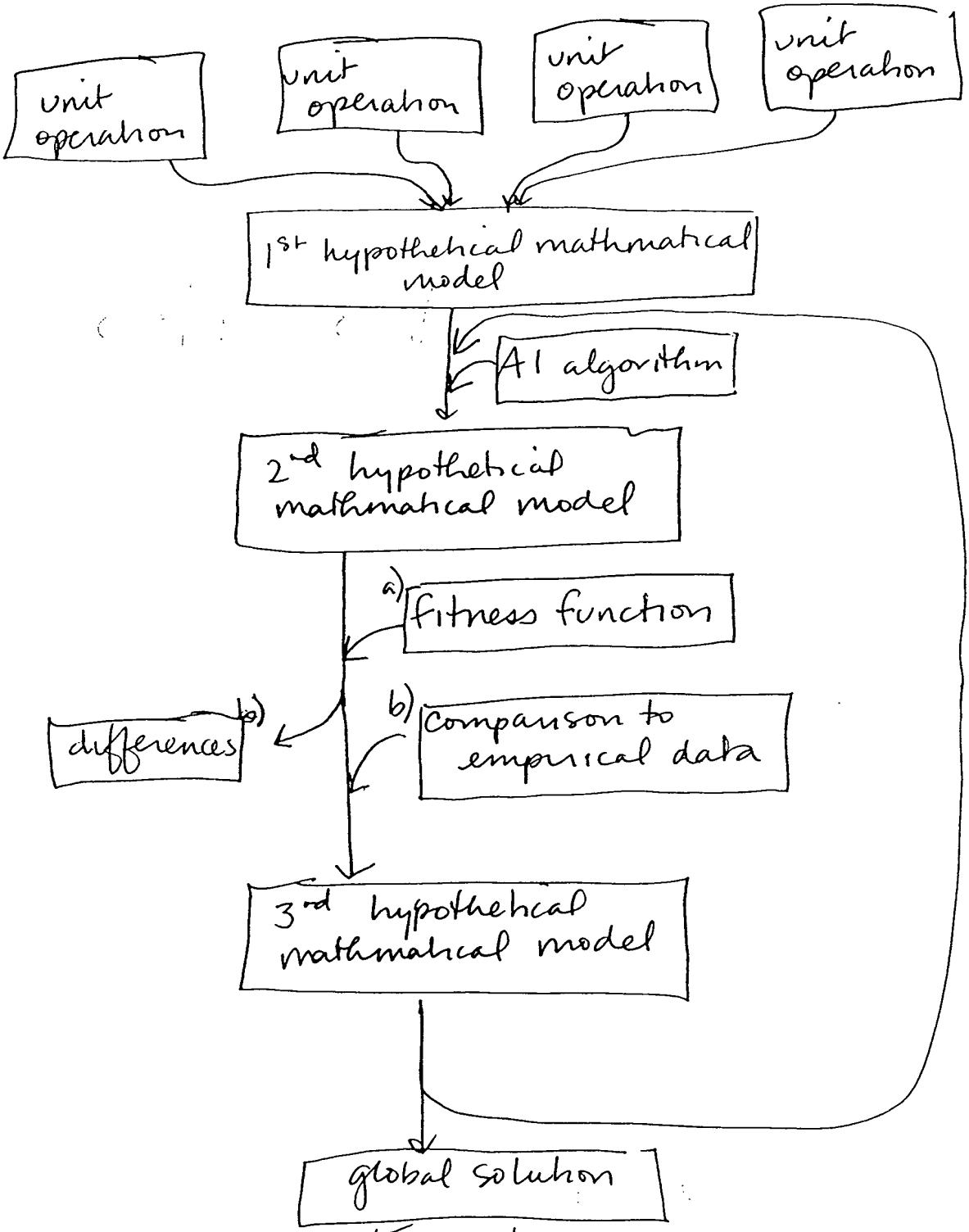

unit operation
unit operation
unit operation
unit operation
1st hypothetical mathmatical model
AI algorithm
2nd hypothetical mathmatical model
a)
fitness function
b)
differences
b)
comparison to empirical data
3rd hypothetical mathmatical model
global solution

Fig 1

Fig 2

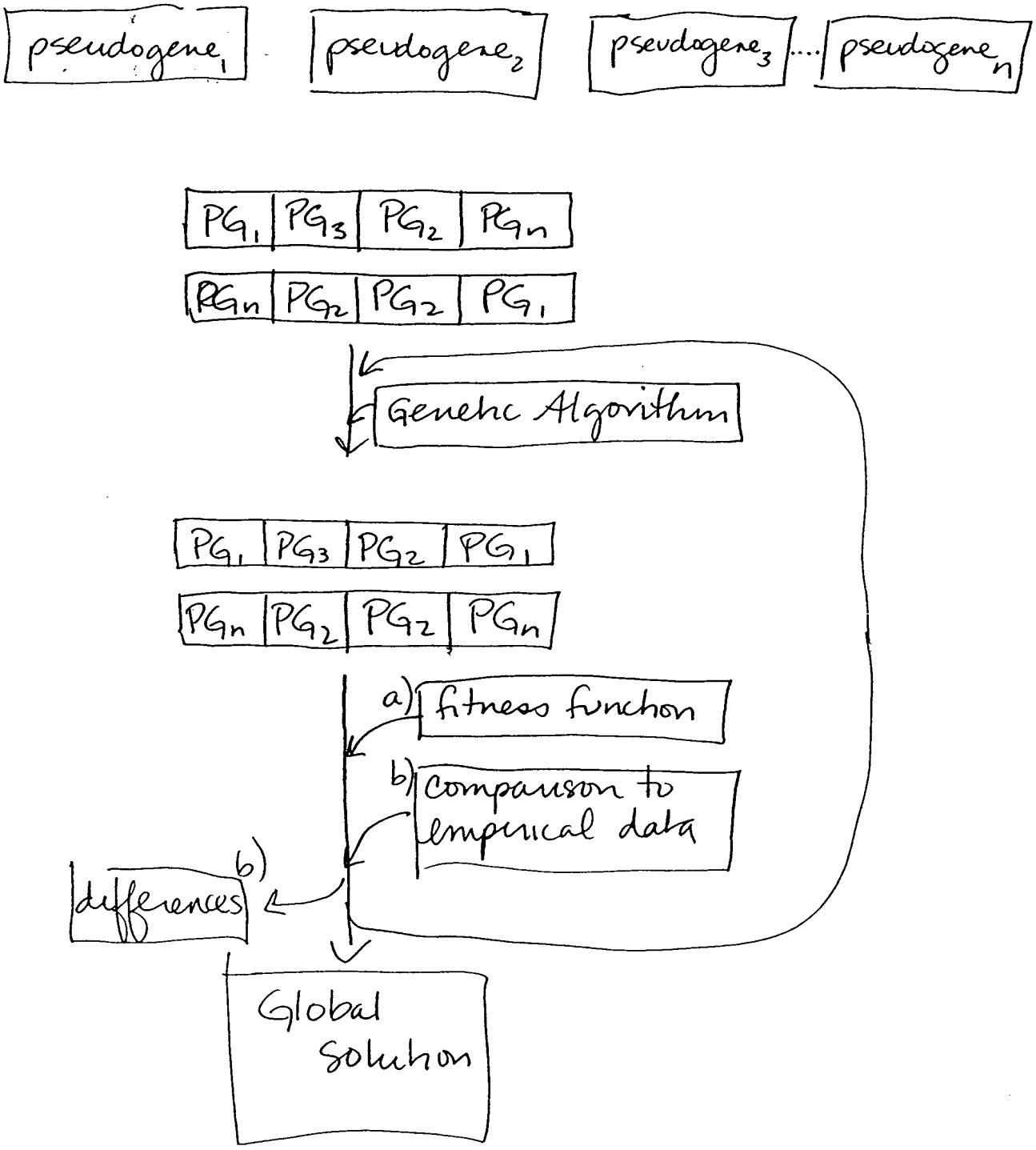
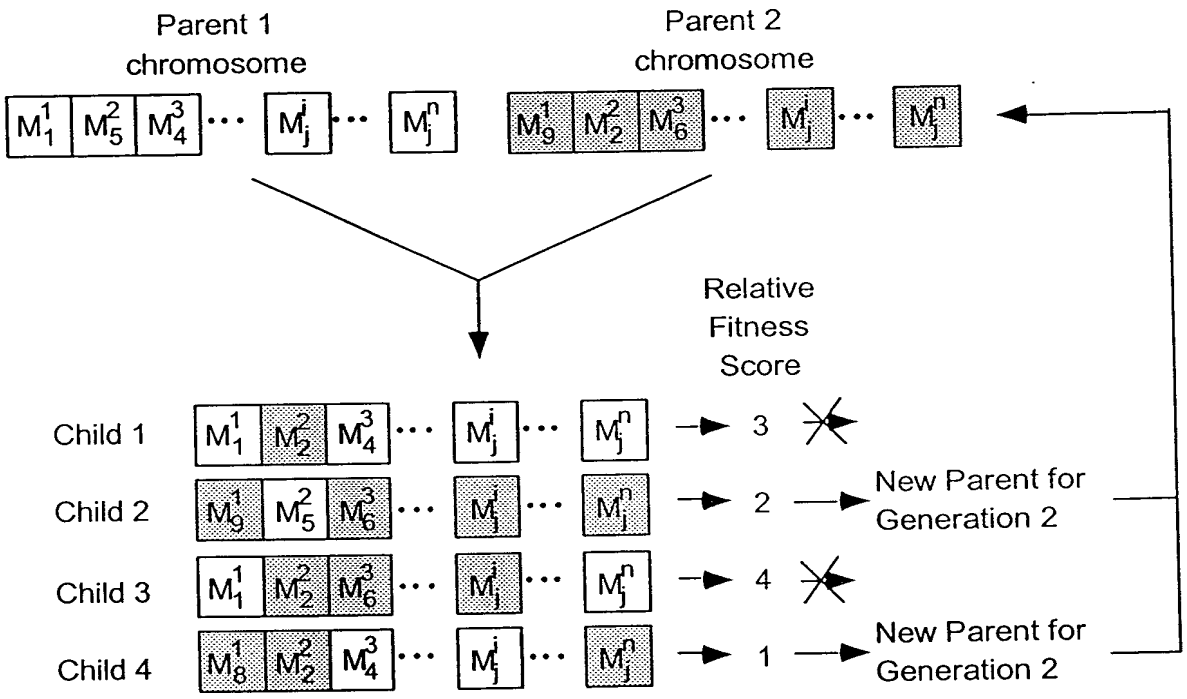
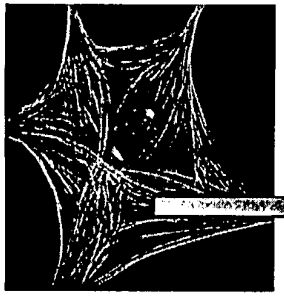

pseudogene1
pseudogene2
pseudogene3 .... pseudogenen
PG1 PG3 PG2 PGn
PGn PG2 PG2 PG1
Genetic Algorithm
PG1 PG3 PG2 PG1
PGn PG2 PG2 PGn
a) fitness function
b) comparison to empirical data
b)
differences
Global solution

Fig 3


Parent 1
chromosome
Parent 2
chromosome
Relative
Fitness
Score
Child 1
Child 2
Child 3
Child 4
3
2
4
1
New Parent for
Generation 2
New Parent for
Generation 2



Algebraic Solution with Block Diagrams

Fig. 4(a)

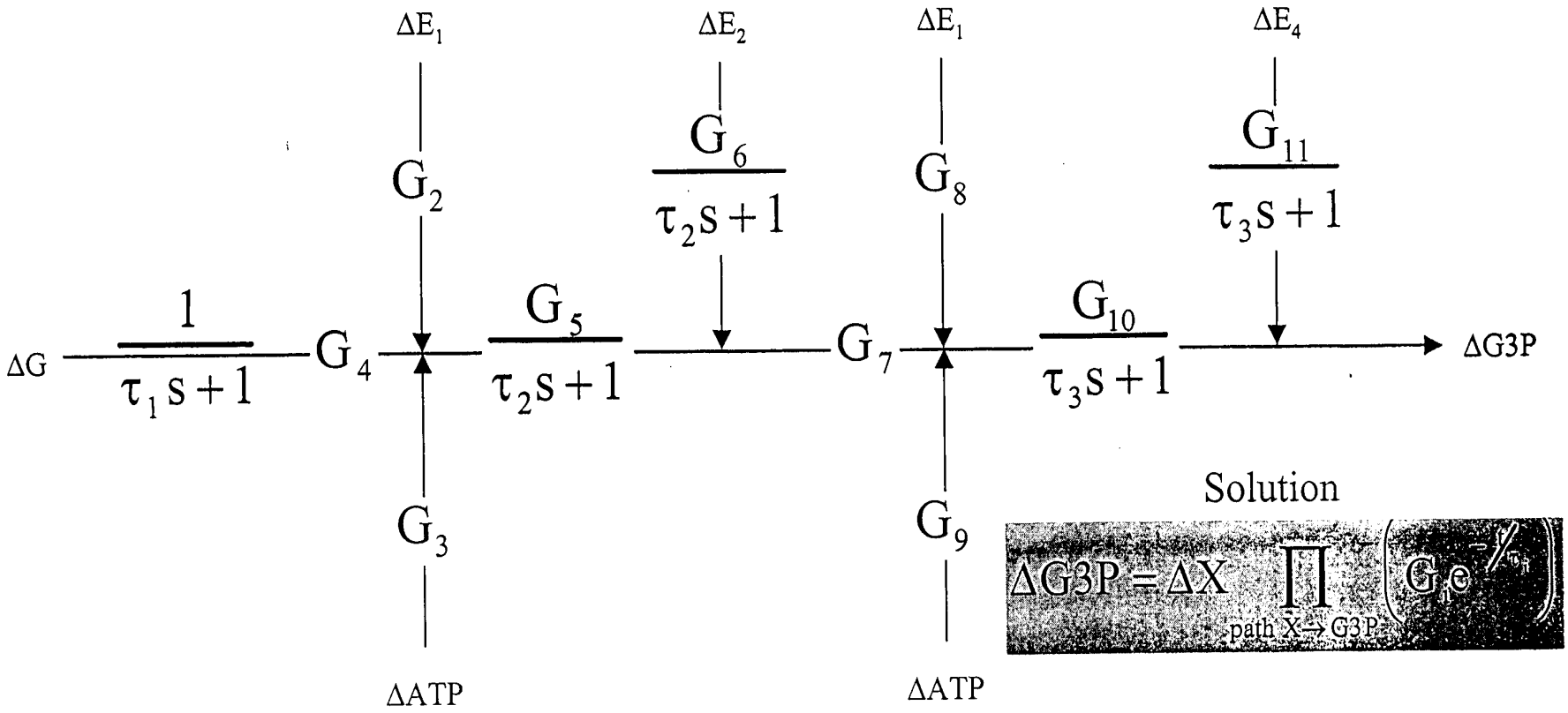

ΔE1
ΔE2
ΔE1
ΔE4
G2
G6
G8
G11
τ2s+1
τ3s+1
ΔG
1
τ1s+1
G4
G5
τ2s+1
G7
G10
τ3s+1
ΔG3P
Solution
G3
G9
ΔATP
ΔATP

Fig. 4(6)